

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/13189

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl<sup>7</sup> B01J27/224, B01D53/86, B01J35/04, C04B41/85

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> B01J21/00-38/74, B01D53/86, B01D53/94

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Toroku Jitsuyo Shinan Koho	1994-2004
Kokai Jitsuyo Shinan Koho	1971-2004	Jitsuyo Shinan Toroku Koho	1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 2002/4455 A1 (NAKANISHI, Tomohiko), 10 January, 2002 (10.01.02), Claims 1, 7, 10, 25; Par. Nos. [0044], [0074] & JP 2002-59009 A Claims 1, 7, 10, 25; Par. Nos. [0032], [0063]	1, 5 2
Y	JP 2002-201082 A (NGK Insulators, Ltd.), 16 July, 2002 (16.07.02), Claims 1, 2, 5; Par. No. [0001] & EP 1277714 A1 Claims 1, 2, 5; Par. No. [0001] & US 2003/134084 A1	2

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

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"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search  
16 January, 2004 (16.01.04)Date of mailing of the international search report  
27 January, 2004 (27.01.04)Name and mailing address of the ISA/  
Japanese Patent Office

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1078678 A2 (MITSUBISHI JIDOSHA KOGYO KABUSHIKI KAISHA), 28 February, 2001 (28.02.01), Claims 8, 16; Par. Nos. [0021], [0041] to [0043] & JP 2001-129402 A Claim 1; Par. Nos. [0018], [0019], [0023], [0024] & US 6537946 B1	3, 4
A	JP 2002-234779 A (NGK Insulators, Ltd.), 23 August, 2002 (23.08.02), Claims 13, 14, 24; Par. Nos. [0001], [0044] & EP 1364930 A1 Claims 13, 14, 24; Par. Nos. [0001], [0044] & US 2003/108458 A1	6-8